AMENDMENTS TO THE CLAIMS

1. (Previously Presented): A method of forming a polycrystalline silicon layer, comprising:

forming an amorphous silicon layer on a substrate;

melting the amorphous silicon layer using a laser beam thereby forming the polycrystalline silicon layer using a mask; and

melting only an upper portion of the polycrystalline silicon layer using the laser beam with the mask thereby recrystallizing the upper portion of the polycrystalline silicon layer,

wherein at least some of the melting of the upper portion of the polycrystalline silicon layer is performed as the amorphous silicon layer is melted.

2. (Original): The method of claim 1, wherein the mask has a completely melting region and a partially melting region.

3. (Original): The method of claim 2, wherein the completely melting region and the partially melting region have stripe shapes.

4. (Original): The method of claim 3, wherein the completely melting region and the partially melting region are postioned in series.

5. (Canceled):

6. (Original): The method of claim 1, wherein the first and second steps are proceeded through one scanning process of moving the substrate having the amorphous silicon layer under the laser beam.

7. (Previously Presented): A method of forming a polycrystalline silicon layer, comprising:

forming an amorphous silicon layer on a substrate;

melting said amorphous silicon layer using a laser beam so as to form a polycrystalline silicon layer; and

re-melting only an upper portion of said polycrystalline silicon layer using a laser beam so as to re-crystallize said upper portion,

wherein at least some of said re-melting of said upper portion of said polycrystalline silicon layer is performed as said amorphous silicon layer is melted.

8. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 7, wherein said re-melting is performed by passing said laser beam through a mask having a low transparency region.

9. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 8, wherein said low transparency region includes a stripe shape.

10. (Previously Presented): The method of forming a polycrystalline silicon layer according to claim 7, wherein said mask further includes a high transparency region.

11. (Previously Presented): The method of claim 7, further including moving the substrate relative to a laser beam.

12. (Previously Presented): The method of claim 7, further including dehydrogenating said amorphous silicon layer before melting.

13. (Withdrawn): A laser-based crystallization apparatus, comprising:

a laser beam;

a mask receving said laser beam, said mask including a high transparency region for passing said laser beam with little attenuation, and a low transparancy region for attenuating said laser beam;

a projection lens for receiving said laser beam from said mask, said projection lens for focusing said laser beam onto a substrate.

14. (Withdrawn): A laser-based crystallization apparatus according to claim 13, wherein said low transparency region has a stripe shape.

15. (Withdrawn): A laser-based crystallization apparatus according to claim 13, wherein said high transparency region has a stripe shape.

16. (Withdrawn): A laser-based crystallization apparatus according to claim 13, wherein said substrate moves relative to said laser beam.

17. (Withdrawn): A laser-based crystallization apparatus according to claim 13, wherein said laser beam is an excimer laser beam.

18. (Currently Amended): A method of forming a polycrystalline silicon layer, comprising:

forming an amorphous silicon layer on a substrate;

melting the amorphous silicon layer using a laser beam thereby forming the polycrystalline silicon layer using a mask, wherein the mask has a completely melting region and a partially melting region; and

melting only an upper portion of the polycrystalline silicon layer using the laser beam with the mask thereby recrystallizing the upper portion of the polycrystalline silicon layer,

wherein at least some of the melting of the upper portion of the polycrystalline silicon layer is performed as the amorphous silicon layer is melted, and the completely melting region of the mask pattern is made of a material having a high light transmittance, and the partially melting region of the mask pattern is made of a material having a low light transmittance. ~~wherein said melted amorphous silicon layer and said polycrystalline silicon layer of which upper portion is melted exist at the same time during at least a certain time period of the formation of the polycrystalline silicon layer.~~

19. (Currently Amended): A method of forming a TFT-LCD device having a polycrystalline silicon layer, comprising:

preparing a substrate having ~~forming~~ an amorphous silicon layer and a mask having a pattern of a completely melting region and a partially melting region ~~on a substrate~~;

irradiating a laser beam through the completely melting region of the mask onto the ~~melting said~~ amorphous silicon layer ~~using a laser beam~~ so as to form a polycrystalline silicon layer; and

then, irradiating a laser beam through the partially melting region of the mask onto the ~~re-melting only an upper portion of said~~ polycrystalline silicon layer ~~using a laser beam~~ so as to re-crystallize the polycrystalline silicon ~~said upper portion~~,

wherein the completely melting region of the mask pattern includes a material having a high light transmittance, and the partially melting region of the mask pattern includes a material having a low light transmittance. ~~wherein said melted amorphous silicon layer and said polycrystalline silicon layer of which upper portion is re-melted exist at the same time during at least a certain time period of the formation of the polycrystalline silicon layer.~~